Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*				R-1 ITEM NOMENCLATURE PE 0303032A: *TROJAN - RH12 - MIP*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.697	3.920	-	3.920	4.142	4.372	4.559	4.589	Continuing	Continuing
RH5: *TROJAN - RH12 - MIP*	-	3.697	3.920	-	3.920	4.142	4.372	4.559	4.589	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY 2011: Program transferred to stand alone MIP PE. FY 2010 and prior was funded in 0604270A/L16.

A. Mission Description and Budget Item Justification

This project is a Military Intelligence Program (MIP). Trojan research and development supports Trojan Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. Trojan is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. Trojan operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded Trojan systems, prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that Trojan keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0303032A: *TROJAN - RH12 - MIP*	

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	3.697	3.930	-	3.930
Current President's Budget	-	3.697	3.920	-	3.920
Total Adjustments	-	-	-0.010	-	-0.010
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.010	-	-0.010

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0303032A: *TROJAN - RH12 - MIP*	PROJECT RH5: *TROJAN - RH12 - MIP*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
RH5: *TROJAN - RH12 - MIP*	-	3.697	3.920	-	3.920	4.142	4.372	4.559	4.589	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project is a Military Intelligence Program (MIP). Trojan research and development supports Trojan Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. Trojan is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. Trojan operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded Trojan systems, prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that Trojan keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Integrate and test specialized hardware/software	-	0.388	0.412
Articles:		0	
Description: Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0303032A: *TROJAN - RH12 - MIP*	PROJECT RH5: *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing. ***FY 2012 Plans:*** Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.			
Title: Acquire and apply multi-bandwidth ***Articles:*** ***Description:*** Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. ***FY 2011 Plans:*** Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. ***FY 2012 Plans:*** Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.	-	0.336 0	0.358
Title: Develop prototype quick reaction capablity receiver ***Articles:*** ***Description:*** Develop prototype quick reaction capability receiver packages for fixed and transportable Trojan systems to acquire non-standard modulations using DSP and FPGA technologies. ***FY 2011 Plans:*** Develop prototype quick reaction capability receiver packages for fixed and transportable Trojan systems to acquire non-standard modulations using DSP and FPGA. ***FY 2012 Plans:*** Develop prototype quick reaction capability receiver packages for fixed and transportable Trojan systems to acquire non-standard modulations using DSP and FPGA.	-	0.375 0	0.400
Title: Integrate Direction Finding ***Articles:***	-	0.367 0	0.390

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0303032A: *TROJAN - RH12 - MIP*	PROJECT RH5: *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups. ***FY 2011 Plans:*** Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups. ***FY 2012 Plans:*** Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups.			
Title: Develop hardware/software interface ***Articles:*** ***Description:*** Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system ***FY 2011 Plans:*** Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system ***FY 2012 Plans:*** Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system	-	0.420 0	0.445
Title: Develop specialized software enhancements to the Trojan ***Articles:*** ***Description:*** Develop specialized software enhancements to the Trojan audio streaming subsystems to improve system redundancy & throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted Trojan systems, including streaming audio technologies. ***FY 2011 Plans:*** Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy & throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies. ***FY 2012 Plans:*** Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy & throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.	-	0.270 0	0.285
Title: Development of SATCOM dishes and receivers ***Articles:***	-	0.736 0	0.780

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0303032A: *TROJAN - RH12 - MIP*	PROJECT RH5: *TROJAN - RH12 - MIP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems. ***FY 2011 Plans:*** Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems. ***FY 2012 Plans:*** Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.			
Title: Labor cost SW engineers ***Articles:*** ***Description:*** Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer. ***FY 2011 Plans:*** Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer. ***FY 2012 Plans:*** Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.	- -	0.805 0	0.850
Accomplishments/Planned Programs Subtotals	-	3.697	3.920

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

This Acquisition Strategy for the TROJAN Classic XXI System supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally leverage off of development by DoD and other Government agencies to the greatest extend possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements. The funding for production and fielding of these capabilities are funded under TROJAN BA0331.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0303032A: *TROJAN - RH12 - MIP*	**PROJECT** RH5: *TROJAN - RH12 - MIP*

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.